1. - 16. Canceled.

17. (Currently Amended) A method for use with a probe for producing a probe output potentially indicative of light absorption of arterial blood, said method comprising the steps of:

receiving said probe output from said probe and identifying a portion of said probe output for potential processing using an arterial oxygen saturation algorithm;

analyzing said portion of said probe output to obtain an indication of a quality of said output;

making a determination, based on said indication of said quality of said output, whether said output reflects a high quality signal including substantially undistorted information reflective of patient oxygen saturation or a low quality signal; and

based on said determination, selectively providing either a first processor output based on said arterial oxygen saturation algorithm in the case of said high quality signal or a second processor output in the case of said low quality signal;

~~A method as set forth in Claim 16,~~ wherein said signal output includes first and second signals corresponding to light of first and second wavelengths, respectively received by the probe, and said step of analyzing comprises determining a degree of correlation between said first and second signals.

18. Canceled.

19. (Currently Amended) A method for use with a probe for producing a probe output potentially indicative of light absorption of arterial blood, said method comprising the steps of:

receiving said probe output from said probe and identifying a portion of said probe output for potential processing using an arterial oxygen saturation algorithm;

analyzing said portion of said probe output to obtain an indication of a quality of said output;

making a determination, based on said indication of said quality of said output, whether said output reflects a high quality signal including substantially undistorted information reflective of patient oxygen saturation or a low quality signal;

based on said determination, selectively providing either a first processor output based on said arterial oxygen saturation algorithm in the case of said high quality signal or a second processor output in the case of said low quality signal; and

~~A method as set forth in Claim 16, further comprising:~~ prior to providing said first processor output, selecting between separate processing paths ~~for use in generating~~to generate said first processor output.

20. Canceled.

21. (Currently Amended) A pulse oximetry apparatus, comprising:

a port for receiving a probe output from an oximeter probe, said probe output providing information potentially indicative of light absorption of arterial blood; and

a processor operative for:

identifying a portion of said probe output for potential processing using an arterial oxygen saturation algorithm;

analyzing said identified portion of said probe output to obtain an indication of a quality of said output;

processing said detector signal to obtain processed information, ~~whereby~~wherein said processed information reduces an effect of an undesired signal portion on an oxygen saturation calculation; and

depending on a result of said signal quality analysis, using said processed information to provide an oxygen saturation output based on said algorithm;

~~A method as set forth in Claim 20,~~ wherein said probe output includes first and second signals corresponding to light of first and second wavelengths, respectively received by the probe, and said ~~step of~~ analyzing comprises determining a degree of correlation between said first and second signals.

22. Canceled.

23. (Currently Amended) A method for use in pulse oximetry, comprising the steps of:

receiving a detector signal from a pulse oximeter detector, wherein said detector signal includes a desired signal portion for use in determining blood oxygen saturation and an undesired signal portion;

performing a first signal quality analysis on said detector signal and comparing a signal quality thereby determined to a threshold;

processing said detector signal to obtain processed information, ~~whereby~~ wherein said processed information reduces an effect of said undesired signal portion on an oxygen saturation calculation; and

depending on a result of said signal quality analysis, using said processed information to provide an oxygen saturation output.

24. (Previously Presented) A method as set forth in Claim 23, wherein said undesired signal portion includes artifact and said step of processing comprises implementing an algorithm for calculating blood oxygen saturation with reduced interference due to said artifact.

25. (Previously Presented) A method as set forth in Claim 24, wherein said algorithm involves excluding certain data deemed to reflect artifact.

26. (Previously Presented) A method as set forth in Claim 23, wherein said signal quality analysis involves obtaining a measurement from said detector signal and comparing said measurement to a threshold to determine whether said signal is likely to yield reliable blood oxygen saturation information.

27. – 28. Canceled.

29. (Currently Amended) A method for use in pulse oximetry, comprising:

obtaining first and second detector signals corresponding to first and second optical signals of respective first and second wavelengths, wherein said first and second optical signals are attenuated by patient tissue;

using a mathematical model to distinguish certain data associated with desired signal portions from data associated with artifact within at least one of said first and second detector

signals, said mathematical model reflecting a correlation relationship between said first and second detector signals;

selectively eliminating data associated with artifact to obtain a cleansed data set;

providing an output based on said cleansed data set that is substantially free of said data associated with said artifact; and

generating said mathematical model using a plurality of corresponding portions of said first and second detector signals within a time window;

~~The method of Claim 28,~~ wherein said generating step further comprises:

~~determining~~using a statistical relationship between said corresponding portions of said first and second detector signals within said time window.

30. (Previously Presented) The method of Claim 29, further comprising:

performing a linear regression analysis on said corresponding data portions of said first and second detector signals to generate a best fit line for said corresponding data portions.

31. (Currently Amended) A method for use in pulse oximetry, comprising:

obtaining first and second detector signals corresponding to first and second optical signals of respective first and second wavelengths, wherein said first and second optical signals are attenuated by patient tissue;

using a mathematical model to distinguish certain data associated with desired signal portions from data associated with artifact within at least one of said first and second detector signals, said mathematical model reflecting a correlation relationship between said first and second detector signals;

selectively eliminating data associated with artifact to obtain a cleansed data set;

providing an output based on said cleansed data set that is substantially free of said data associated with said artifact;

~~The method of Claim 27,~~ wherein said using a mathematical model to distinguish step comprises performing a statistical analysis of data associated with at least one of said first and second detector signals in relation to said correlation relationship between said first and second detector signals.

32. (Previously Presented) The method of Claim 31, wherein said using a mathematical model to distinguish step comprises identifying data outside a predetermined statistical threshold as said data associated with artifact.

33. – 34. Canceled.

35. (Currently Amended) A method for use in pulse oximetry, comprising:

obtaining first and second detector signals corresponding to first and second optical signals of respective first and second wavelengths, wherein said first and second optical signals are attenuated by patient tissue;

identifying a time window including at least a portion of each of said first and second signals, wherein a signal ratio of said first and second detector output signals is assumed constant over said window;

performing a statistical analysis of a first data portion associated with at least one of said first and second detector signals within said window;

identifying a second data portion within said window as being affected by artifact;

based on said statistical analysis and said step of identifying, providing an output regarding a physiological parameter of a patient, wherein said output has enhanced tolerance with respect to artifact;

~~The method of Claim 34,~~ wherein said step of performing further comprises:

determining correlations between a plurality of corresponding portions of said first and second detector signals within said time window; and

generating a best fit line for said correlations wherein data associated with said best fit line corresponds to said signal ratio.

36. (Currently Amended) A method for use in pulse oximetry, comprising:

obtaining first and second detector signals corresponding to first and second optical signals of respective first and second wavelengths, wherein said first and second optical signals are attenuated by patient tissue;

identifying a time window including at least a portion of each of said first and second signals, wherein a signal ratio of said first and second detector output signals is assumed constant over said window;

performing a statistical analysis of a first data portion associated with of at least one of said first and second detector signals within said window;

identifying a second data portion within said window as being affected by artifact;

based on said statistical analysis and said step of identifying, providing an output regarding a physiological parameter of a patient, wherein said output has enhanced tolerance with respect to artifact;

~~The method of Claim 34,~~ wherein said step of performing a statistical analysis comprises determining a deviation of ~~said first~~data in said data portion to said signal ratio.

37. (Currently Amended) A method for use in pulse oximetry, comprising:

obtaining first and second detector signals corresponding to first and second optical signals of respective first and second wavelengths wherein said first and second optical signals are attenuated by patient tissue;

identifying a time window including at least a portion of each of said first and second signals, wherein a signal ratio of said first and second detector output signals is assumed constant over said window;

performing a statistical analysis of a first data portion associated with at least one of said first and second detector signals within said window;

identifying a second data portion within said window as being affected by artifact;

based on said statistical analysis and said step of identifying, providing an output regarding a physiological parameter of a patient, wherein said output has enhanced tolerance with respect to artifact; and

~~The method of Claim 34, further comprising:~~ performing an artifact elimination process that substantially eliminates said second data portion within said window.

38. (Currently Amended) A method for use in pulse oximetry, comprising:

obtaining first and second detector signals corresponding to first and second optical signals of respective first and second wavelengths, wherein said first and second optical signals are attenuated by patient tissue;

identifying a time window including at least a portion of each of said first and second signals, wherein a signal ratio of said first and second detector output signals is assumed constant over said window;

performing a statistical analysis of a first data portion associated with at least one of said first and second detector signals within said window;

identifying a second data portion within said window as being affected by artifact;

based on said statistical analysis and said step of identifying, providing an output regarding a physiological parameter of a patient, wherein said output has enhanced tolerance with respect to artifact;

~~The method of Claim 34,~~ wherein providing said output comprises providing an oxygen saturation output.

39. Canceled.

40. (New) A method as set forth in Claim 17, wherein said step of analyzing comprises identifying a characteristic based on said probe output deemed unlikely to correspond to patient physiology.

41. (New) A method as set forth in Claim 17, wherein said step of analyzing comprises identifying a variation in values calculated from said probe output deemed unlikely to correspond to patient physiology.

42. (New) A method as set forth in Claim 41, wherein said identified variation corresponds to an apparent abrupt change in arterial oxygen saturation.

43. (New) A method as set forth in Claim 17, wherein said obtained indication corresponds to a level of confidence that said oxygen saturation algorithm will provide an accurate result.

44. (New) A method as set forth in Claim 17, wherein said second processor output indicates a low quality signal status.

45. (New) A method as set forth in Claim 19, wherein said step of analyzing comprises identifying a characteristic based on said probe output deemed unlikely to correspond to patient physiology.

46. (New) A method as set forth in Claim 19, wherein said step of analyzing comprises identifying a variation in values calculated from said probe output deemed unlikely to correspond to patient physiology.

47. (New) A method as set forth in Claim 46, wherein said identified variation corresponds to an apparent abrupt change in arterial oxygen saturation.

48. (New) A method as set forth in Claim 19, wherein said obtained indication corresponds to a level of confidence that said oxygen saturation algorithm will provide an accurate result.

49. (New) A method as set forth in Claim 19, wherein said step of selecting involves determining whether or not to provide a result based on application of said arterial oxygen saturation algorithm.

50. (New) An apparatus as set forth in Claim 21, wherein said processor is operative to identify a characteristic based on said probe output deemed unlikely to correspond to patient physiology.

51. (New) An apparatus as set forth in Claim 21, wherein said processor is operative to identify a variation in values calculated from said probe output deemed unlikely to correspond to patient physiology.

52. (New) An apparatus as set forth in Claim 51, wherein said identified variation corresponds to an apparent abrupt change in arterial oxygen saturation.

53. (New) An apparatus as set forth in Claim 21, wherein said obtained indication corresponds to a level of confidence that said oxygen saturation algorithm will provide an accurate result.

54. (New) An apparatus as set forth in Claim 21, wherein said processor is operative for obtaining said processed information by excluding data corresponding to said undesired signal portion.

55. (New) An apparatus as set forth in Claim 54, wherein said excluded data is identified based on a time domain analysis.

56. (New) An apparatus as set forth in Claim 29, wherein said step of eliminating comprises identifying said data associated with said artifact based on said mathematical model and excluding said data associated with said artifact from a calculation of a physiological parameter.

57. (New) An apparatus as set forth in Claim 31, wherein said step of eliminating comprises identifying said data associated with said artifact based on said mathematical model and excluding said data associated with said artifact from a calculation of a physiological parameter.

58. (New) An apparatus as set forth in Claim 31, wherein said data associated with said desired signal portions is distinguished from said data associated with said artifact based on a deviation from said correlation relationship.

59. (New) An apparatus as set forth in Claim 37, wherein said signal ratio is proportional to arterial oxygen saturation.

60. (New) An apparatus as set forth in Claim 37, wherein said step of identifying is based on said statistical analysis.

61. (New) An apparatus as set forth in Claim 37, wherein said step of performing comprises excluding said second data portion from a calculation of said physiological parameter.

62. (New) An apparatus as set forth in Claim 37, wherein said step of performing comprises processing said second data portion in a time domain.

63. (New) An apparatus as set forth in Claim 38, wherein said signal ratio is proportional to arterial oxygen saturation.

64. (New) An apparatus as set forth in Claim 38, wherein said step of identifying is based on said statistical analysis.

65. (New) An apparatus as set forth in Claim 38, wherein said step of performing comprises excluding said second data portion from a calculation of said physiological parameter.

66. (New) An apparatus as set forth in Claim 38, wherein said step of performing comprises processing said second data portion in a time domain.

67. (New) An apparatus as set forth in Claim 38, wherein said statistical analysis is based on a correlation relationship between said first and second optical signals.